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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/569,230

02/23/2006

Hiroyuki Tajiri

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38834

7590

05/21/2009

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EXAMINER

LAU, JONATHAN S

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/569,230	<b>Applicant(s)</b> TAJIRI ET AL.	
	<b>Examiner</b> Jonathan S. Lau	<b>Art Unit</b> 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-13 is/are pending in the application.
- 4a) Of the above claim(s) 8-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This Office Action is responsive to Applicant's Amendment and Remarks, filed 05 Mar 2009, in which claims 1 and 3 are amended to change the scope and breadth of the claim and claim 2 is canceled.

This application is the national stage entry of PCT/JP04/12219, filed 19 Aug 2004; and claims benefit of foreign priority document JP 2003-301124, filed 26 Aug 2003; currently an English language translation of this foreign priority document has not been made of record.

Claims 1 and 3-13 are pending in the current application. Claims 8-13, drawn to non-elected inventions, are withdrawn. Claims 1 and 3-7 are examined on the merits herein.

### ***Rejections Withdrawn***

Applicant's Amendment and Remarks, filed 05 Mar 2009, with respect to claims 2 and 3 rejected under 35 U.S.C. 112, second paragraph, as being indefinite has been fully considered and is persuasive, as Applicant's remarks that a distinct definition is present in the specification is persuasive and claim 2 is canceled.

This rejection has been **withdrawn**.

The following modified grounds of rejection are necessitated by Applicant's Amendment, filed 05 Mar 2009, in which claims 1 and 3 are amended to change the scope and breadth of the claim and claim 2 is canceled.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osaka Gas Co., Ltd. (Foreign Patent Publication JP 2002-173689, published 21 June 2002, provided by Applicant in IDS mailed 23 Feb 2006), JP '689 herein, in view of Harihara et al. (US Patent Application Publication US 2002/0114126, published 22 Aug 2002, cited in PTO-892). As the publication JP '689 is in Japanese the English-

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language machine translation is provided (machine translation of JP 2002-173689, of record), and references to JP '689 will be found therein.

JP '689 teaches a hydrocarbon material with electrical conductivity useful in the electronics industry (page 1, paragraphs 1-2) made from a cellulose-based material such as coconuts or wood flour (page 2, paragraph 9 and page 3, paragraph 14). JP '689 teaches the raw material with a thermal reaction assistant such as zinc chloride added (page 4, paragraph 21). JP '689 teaches a hydrocarbon material made by thermal reaction, or heat-treating, to give a hydrogen/carbon atomic ratio of 0.05 to 0.5 (page 5, paragraph 25). JP '689 teaches the hydrocarbon material has a specific surface area measured by the BET method of 1800-3000 m<sup>2</sup>/g (page 5, paragraph 29). JP '689 teaches the hydrocarbon material has an 8-12 angstrom pore volume determined by the MP method of preferably 0.2-0.8 ml/g (page 6, paragraph 30). The oxygen concentration of a polysaccharide-based material such as wood flour has an empirical formula of CH<sub>2</sub>O, or an oxygen concentration of 25% by atomic ratio, or approximately 53% by weight. JP '689 teaches a hydrocarbon material having an oxygen density of 28.1% by weight (page 8, paragraph 48), 26.4% by weight (page 8, paragraph 51), and 18.6% by weight, (page 8, paragraph 53), implicitly teaching the deoxygenation of the polysaccharide-based raw material according to instant claim 3. JP '689 teaches the oxygen density of the raw material is 20% by weight or more and teaches when the oxygen density is too low the desired performance of the product is hard to obtain (page 4, paragraph 19).

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JP '689 does not specifically teach a mesopore volume, measured by the BJH method, of 0.02 to 1.2 ml/g.

Harihara et al. teaches an activated carbon material useful in the electrical electronics industry made from coconut shell having a pore volume of pores having a diameter of 5.0 nm to 30.0 nm, or mesopore volume, of 0.05 cm<sup>3</sup>/g to 0.15 cm<sup>3</sup>/g (abstract). Harihara et al. teaches having a pore volume of pores having a diameter of 5.0 nm to 30.0 nm, or mesopore volume, of 0.05 cm<sup>3</sup>/g to 0.15 cm<sup>3</sup>/g provides advantageous electrical properties (page 3, paragraph 22).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine JP '689 in view of Harihara et al. Both JP '689 and Harihara et al. are in the field of an activated carbon material useful in the electrical electronics industry made from a polysaccharide-based raw material such as coconut. One of ordinary skill in the art would be motivated to combine JP '689 in view of Harihara et al. because Harihara et al. teaches the material having a mesopore volume of 0.05 cm<sup>3</sup>/g to 0.15 cm<sup>3</sup>/g provides advantageous electrical properties. JP '689 teaches the oxygen density of the raw material is 20% by weight or more and teaches when the oxygen density is too low the desired performance of the product is hard to obtain, providing guidance for one of ordinary skill in the art to optimize the obtained product by performing routine experimentation by using a raw material having an increased oxygen density. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists, and generally differences in concentration or temperature will not support the patentability of subject matter encompassed by the

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prior art unless there is evidence indicating such concentration or temperature is critical, see MPEP 2144.05.

The limitation "a bulk density of 0.60 g/ml or higher for an electrode obtained using the hydrocarbon material" is interpreted as a intended use of the claimed hydrocarbon material, and it is found that the material taught by JP '689 is capable of being used in an electrode having a bulk density of 0.60 g/ml or higher.

Instant claim 6 recites limitations of the starch-based material, but does not require the polysaccharide-based raw material to be said starch-based material, therefore a hydrocarbon material prepared from a cellulose-based raw material makes obvious instant claim 6.

**Response to Applicant's Remarks:**

Applicant's Remarks, filed 05 Mar 2009, have been fully considered and not found to be persuasive.

Applicant notes that the preferred oxygen density of the raw material taught by JP '689 is 24 to 32 % by weight. However, disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments, see MPEP 2123 II. Further, "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed.." JP '689 does not criticize, discredit, or otherwise discourage the use of raw material wherein the oxygen density is 20% by weight or more.

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Applicant identifies evidence provided in the instantly filed specification that purports to show unexpectedly advantageous properties, such as specific capacitance per unit volume and per unit weight. However, this evidence is not persuasive because it is not clear that a nexus exists between the oxygen concentration of the raw material as recited in the instant claims as amended and the electrical properties of the product made according to the instantly claimed product-by-process. For example, Harihara et al. teaches having a pore volume of pores having a diameter of 5.0 nm to 30.0 nm, or mesopore volume, of 0.05 cm<sup>3</sup>/g to 0.15 cm<sup>3</sup>/g provides the advantageous electrical properties. The evidence provided does not appear to show any clear correlation between the mesopore volume and the oxygen concentration of the raw material. As Harihara et al. teaches the final product having a pore volume of 0.05 cm<sup>3</sup>/g to 0.15 cm<sup>3</sup>/g provides advantageous electrical properties, it is reasonable to conclude that one of ordinary skill in the art would not find these advantageous electrical properties unexpected over the teachings of the prior art.

Applicant notes that the product taught by Hirahara et al. is obtained by a different process. However, Hirahara et al. is relied upon to teach the advantageous electrical properties related to pore volume of a hydrocarbon material, and it is the teaching of JP '689 in combination with the teaching of Hirahara et al. that is relied upon that renders the instant invention obvious.

### ***Conclusion***

No claim is found to be allowable.



Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan S. Lau whose telephone number is 571-270-3531. The examiner can normally be reached on Monday - Thursday, 9 am - 4 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Anna Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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